IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1   1.   (Currently Amended) A method for generating a spot for use in halftoning,

2   comprising:

3   defining a spot function that combines two functions selected to provide a

4   predetermined spot shape for use in a halftone cell; and

5   scaling the spot function using a parameterized spot radius scaling function that varies

6   according to a value of a first and second spot function ordinate and a shape changing scaling

7   function;

8   wherein the spot function is described by:

9            $$f(x,y) = \frac{1}{2}\left(\cos(\pi x / p_x) + \frac{1}{S(p,r)}\cos(\pi y / p_y) \right)$$

10   where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales

11   ordinate y, p is a spot shape parameter for controlling the shape of the spot, S(p,r) is a scaling

12   function, and r is the radius of the spot.

1   2.   (Original)   The method of claim 1 wherein the two functions allow non-

2   separable changes in spot shape.

1   3.   (Canceled)

1   4.   (Canceled)   .

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1   5.   (Currently Amended) The method of claim [[4]] 1, wherein the scaling

2   function, S(p,r), is described by:

$$S(p,r) = 1 + \frac{1}{p_m\sqrt{2\pi}}\exp\left(-\frac{\left(r/\sqrt{2}-1/2\right)^2}{2p^2}\right),$$

4   where p_m sets a maximum ellipticity of the spot.

1   6.   (Canceled)

1   7.   (Currently Amended) A printing system, comprising:

2   a control unit for receiving a print file and processing the print file for printing;

3   a print head for conveying a print job according to the print file; and

4   a device for generating a spot for use in halftoning wherein the halftoning reproduces

5   an image defined by the print file using the print head, the device defines a spot function that

6   combines two functions selected to provide a predetermined spot shape for use in a halftone

7   cell and scales the spot function using a parameterized spot radius scaling function that varies

8   according to a value of a first and second spot function ordinate and a shape changing scaling

9   function;

10   wherein the spot function used by the device is described by:

11   _____ $f(x,y) = \frac{1}{2}\left(\cos(\pi x/p_x) + \frac{1}{S(p,r)}\cos(\pi y/p_y)\right)$

12   where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales

13   ordinate y, p is a spot shape parameter for controlling the shape of the spot, S(p,r) is a scaling

14   function, and r is the radius of the spot.

1   8.   (Original)   The printing system of claim 7 wherein the two functions allow

2   non-separable changes in spot shape.

1   9.   (Canceled)

1   10.   (Canceled)

1   11.   (Currently Amended) The printing system of claim [[10]] 7, wherein the

2   scaling function, S(p,r), is described by:

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$$S(p,r) = 1 + \frac{1}{p_m \sqrt{2\pi}} \exp\left(-\frac{\left(r/\sqrt{2} - 1/2\right)^2}{2p^2}\right),$$

4   where p_m sets a maximum ellipticity of the spot

1   12.   (Canceled)

1   13.   (Original)   The printing system of claim 7 wherein the device is a

2   hardware card disposed between the control unit and the print head.

1   14.   (Original)   The printing system of claim 7 wherein the device is a

2   hardware card disposed within the control unit.

1   15.   (Original)   The printing system of claim 7 further comprising a print

2   program of a computer for generating the print file, wherein the device comprises screening

3   software loaded into the computer, the computer executing the screening software to perform

4   the halftoning.

1   16.   (Original)   The printing system of claim 7 wherein the device comprises

2   software loaded into the control unit, wherein the control unit executes the software to

3   perform the halftoning.

1   17.   (Currently Amended) An article of manufacture comprising a program

2   storage medium readable by a computer, the medium tangibly embodying one or more

3   programs of instructions executable by the computer to perform a method for halftoning an

4   image, the method comprising:

5   defining a spot function that combines two functions selected to provide a

6   predetermined spot shape for use in a halftone cell; and

7   scaling the spot function using a parameterized spot radius scaling function that varies

8   according to a value of a first and second spot function ordinate and a shape changing scaling

9   function;

10   _____ wherein the spot function is described by:

11    $$f(x,y) = \frac{1}{2}\left(\cos(\pi x / p_x) + \frac{1}{S(p,r)}\cos(\pi y / p_y) \right)$$

12   where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales

13   ordinate y, p is a spot shape parameter for controlling the shape of the spot, S(p,r) is a scaling

14   function, and r is the radius of the spot.

1   18.   (Original)   The article of manufacture of claim 17 wherein the two

2   functions allow non-separable changes in spot shape.

1   19.   (Canceled)

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1   20.   (Canceled)

1   21.   (Currently Amended) The article of manufacture of claim [[20]] 17, wherein

2   the scaling function, S(p,r), is described by:

$$S(p,r) = 1 + \frac{1}{p_m \sqrt{2\pi}} \exp\left(-\frac{\left(r/\sqrt{2} - 1/2\right)^2}{2p^2}\right),$$

4   where p_m sets a maximum ellipticity of the spot.

1   22.   (Canceled)

23.   (Currently Amended) A printing system, comprising:

means for receiving a print file and processing the print file for printing;

means for conveying a print job according to the print file; and

means for generating a spot for use in halftoning wherein the halftoning reproduces an image defined by the print file using the print head, the means for generating a spot defines a spot function that combines two functions selected to provide a predetermined spot shape for use in a halftone cell and scales the spot function using a parameterized spot radius scaling function that varies according to a value of a first and second spot function ordinate and a shape changing scaling function;

wherein the spot function is described by:

$$f(x,y) = \frac{1}{2}\left(\cos(\pi x / p_x) + \frac{1}{S(p,r)}\cos(\pi y / p_y) \right)$$

where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales ordinate y, p is a spot shape parameter for controlling the shape of the spot, $S(p,r)$ is a scaling function, and r is the radius of the spot.